UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,880	12/31/2003	Yuvaraj Athur Raghuvir	11884/405701	8889

26646 7590 11/28/2007 KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004	**EXAMINER** VO, TED T

ART UNIT	PAPER NUMBER
2191	

MAIL DATE	DELIVERY MODE
11/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

		Application No.	Applicant(s)
Office Action Summary		10/749,880	RAGHUVIR ET AL.
		Examiner	Art Unit
		Ted T. Vo	2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

> A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
> - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
> - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
> Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *13 September 2007*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,3-6,8-11 and 13-16* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,3-6,8-11 and 13-16* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims which are amended are enter in viewed of the RCE; Claims 1, 3-6, 8-11, 13-16 are

pending in the application.

Response to Arguments

2.   This action is in response to the argument filed on 09/13/2007.

The Applicants' argument to the rejection of Claims 11-15 under 35 USC 101 has been

considered. However, the specification fails to describe any computer-readable medium. It should be not

that computer-readable media of claims such as air, signal transmission. Etc., are considered as non-

salutatory claims under 35 USC 101. Therefore, the amendment should be consistent to the specification,

and Examiner interprets the medium of the claims cover such these types.

Regarding the argument to the rejection of Claim 16 under 102 and Claims 1-15 under 103:

-With regard to the amended limitation in the claims, "*wherein each operation includes a*

collaborative behavior of a plurality of classes", and Applicants argued that the reference is concerning a

computer system for testing software are all performed in batch and linear form, and performed

independent of one another.

Examiner disagrees: With software design patterns, it describes the common collaborative among

the objects or classes. Figure 5.1 presents an abstract level of JUnit test. The test case shown in Figure

5.1 is a test case class within JUnit test. Thus, with this class, it is a plurality of operations; each operation

is a collaborative behavior of operative classes. In Figure 5.1, it presents a class model of JUnit test,

included with an abstract level of Test Case Class, and Test Suite class built by UML.

It has been known that a class is an abstract model that represents a plurality of operations. An

object model represents the operations of a plurality of classes. Therefore, a test upon a class model

would not be in a linear form. For the JUnit test that is associated with object model (e.g. p. 75:sec 10.4),

it meets the newly added limitation of the claims. It should be noted that Skinner's JUnit test is similar to

FIG. 4 of the specification, where within this figure, the specification admitted the JUnit test of Skinner

discloses the newly added limitation. See in the specification:

> "FIG. 4 depicts the object model for JUnit, which is a testing framework for Java Classes and
> defines a paradigm on which Java classes may be tested. JUnit allows the definition of
> collaborative classes such as Test, TestCase, TestResult etc.".

Thus, if Applicants argues Skinner's test performs in batch and linear form then the claims also

performs in batch and in linear form.

It should be noted that the claimed functionality of Claim 16 and Claims 1-15 are the same in

terms of testing with the added limitation.

-With regard to the argument that Elbaum that does not cure the definition of Skinner reference: It

should be noted that the Skinner reference discusses priority testing. It appears that the priority test is

occurring in every test scenario because this feature is a standard feature of the art. Therefore, Skinner

does not detail the thing that has already been common. The present reference of Elbaum shows ranking

is as such a common. That is that the ranking is just formal in every test scenario because it yields

predictable results for any ordinary skill in the art.

Furthermore, the newly added limitation in the claims solely indicates an intended use of a plurality of

operations, rather it present functionality to limitation an association of the claim. The added limitation

fails to meet requirements under 1.111(c).

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.   The claims 11-15 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter.

<u>As per Claims 11-15</u>:

A claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result". State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02.

A computer-readable medium in the claims covers the types of computer-readable medium such as air, energy, wireless carrier medium, and signal transmission; where these types are also computer-readable media. Therefore, Claims 11-15 fail to meet the statutory claims under 35.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Skinner, "Enhancing an Open Source UML Editor by Context-Based Constraints for Components", Technical University of Berlin, pp. 1-121, 12-2001.

<u>As per Claim 16</u>: Skinner discloses,

A computer system for testing a software application comprising:

a test module (all UML diagrams are implemented by at least one software module: Skinner shows the test is organized in hierarchical scenario: Figure 5.1, p. 28);

at least one nested test case class defined for each of a plurality of operations, wherein the operation is characterized as having a beginning and an end (Figure 5.1, p. 28, represents having nested test case class defined for each of a plurality of operations, where the test hierarchical structure has a beginning as root and an end as an ended object model); ***wherein each operation includes a collaborative behavior of a plurality of classes*** (Figure 5.1, and p. 75: Sec. 10.4, comparing these to the specification describing JUnit test);

a first portion for receiving first information describing valid start states and probable end states for each test case class (See p. 77, validate the XMI document..., see CrCoConInvalid, p. 112, etc);

a second portion for receiving second information for relating at least a portion of the test case classes to reflect a particular hierarchically organized scenario for testing (e.g. the implementation for UML Diagram seen in Figure 5.1 p. 28); ***and***

a third portion for performing a test of the particular hierarchically organized scenario as a function of the first information and second information (e.g. the execution of a test based on the scenario as of UML diagrams in accordance to this reference).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skinner, "Enhancing

an Open Source UML Editor by Context-Based Constraints for Components", Technical University of

Berlin, pp. 1-121, 12-2001, in view of Elbaum, "Test Case Prioritization: A Family of Empirical Studies",

IEEE, pp. 159-182, 2-2002

Given the broadest reasonable interpretation of followed claims in light of the specification.

Terms' Definition:

test scenario: A set of test cases that ensure that the business process flows are tested from end to end.
They may be independent tests or a series of tests that follow each other, each dependent on the output
of the previous one. The terms "test scenario" and "test case" are often used synonymously

As per Claim 1: Skinner discloses a method for testing software by using an UML editor/JUnit to build a

test scenario for software testing (See Figure 5,1, p. 28). The UML editor/Junit provides the test that

receives test case class with a plurality of operation such as TestA(), TestB(). Associated with the test

case is Testsuite, test interface, TestRunner (Figure 5.1) ('test scenario'). In the test framework built

under UML diagram as shown in Figure 5.1, it has the *hierarchically organized test scenario, and nested*

test case class properties.

Skinner discloses, *A computer-implemented method for testing a software application comprising:*

associating a test case class with each of a plurality of operations, wherein each operation

includes a collaborative behavior of a plurality of classes (p. 28, Figure 5.1, TestCase, AtestCase,

Test(A), etc., See p. 74, sec. 10.4, comparing these to the specification describing JUnit test);

receiving a hierarchically organized test scenario, the test scenario including at least one

selected, nested test case class (The UML diagram of test framework: i.e., the diagram in Figure 5.1, or

see Figure 2.2, p. 17);

receiving ranking information for the test scenario (See description of Unit Testing, p. 27, and see the

information, "priority" included in an XMI-element definition. Note: should relate XMI to a hieratical class

diagram in Figure 5.1, i.e. when a related test is called, this information of priority is received), *the*

ranking information pertaining to relative prioritization of execution of each of the selected test

case classes (abstractly described in p. 27);

performing a test of the test scenario as a function of the ranking information (Figure 5.1 in p. 28 is

an example of a test case that is run using the hierarchically organized test scenario, where the test case

used in this test run is performed in the manner to the priority discussion in p. 27).

The performance of a test in the Skinner reference is provided by a selection of test run such as

Figure 5.1, and is based on Constraints in UML. It should be noted that Skinner defines priority of test

based a top priority of fixed code, i.e. test suite of 99% tests pass is still a failure (See p. 27); there are

constraints in XMI-element definition included with "priority" (p. 74), where XMI-elements is known as

related to UML diagrams that is used as *hierarchically organized test scenario* as shown in Figure 5.1.

The reference Skinner discussed receiving ranking information relatively of each test case class

in the execution with a generic manner (as discussed as "top priority" based on the 99% of testcase

failures and "constraints" shown in the XML-elements). It does not explicitly use the language as recited

in the claim, "*the ranking information pertaining to relative prioritization of execution of each of the*

selected test case classes"

Elbaum establishes prioritization in testcases. Its purpose is to provide ranking information for

testcases (Elbaum: sec. 3, start at p. 160), for a test scenario. The ranking information pertains to relative

prioritization of execution of each of the selected test case (See p. 169-170, discussing rankings for the

Experiments 1a (p.167) and 1b (p.169) so that the performance of the test is as a function ('function

level') of the ranking information.

Since using UML diagrams is for conforming to an open source which is developed by OMG in

model management, and since prioritization of test cases is well-known subject in testing for assisting

software test engineers to improve test performance as increasing the test suite's rate of fault detection,

the two elements (test scenario using UML diagrams and test case prioritization) are well-known to all

skills in the arts. They use the UML diagrams for relating test model and establish the prioritization as a

nature of need and availability.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the well-known "prioritization" of test cases, by Elbaum, and object management model developed by OMG and disclosed by Skinner in a hierarchically organized test scenario. The inclusion is obvious because it yields predictable results for any ordinary skill in the art.

As per Claim 2: Skinner further discloses *The method according to claim 1, wherein each operation includes a collaborative behavior of a plurality of classes* (See Figure 5.1).

As per Claim 3: Both Skinner and Elbaum further disclose

The method according to claim 1, wherein the ranking information is validated to be semantically correct with respect to a framework semantics. It is obvious to include because semantic validation is a part of programming, and where ranking information is as part of the code (Elbaum: p.159, introduction, see sec. 5.3, start at p. 171).

As per Claim 4: Both Skinner and Eubaum disclose *The method according to claim 3, wherein the ranking information is validated to be semantically correct by defining valid start states and probable end states for each associated operation.* It is obvious to include because semantic validation is a part of programming (Elbaum: p.159, introduction, see sec. 5.3, start at p. 171. Skinner: p. 17, p. 18).

As per Claim 5: Both Skinner and Elbaum disclose *The method according to claim 3, wherein the ranking information is validated to be semantically correct with respect to a framework semantics by providing an editor that allows only valid nesting of test cases* (Elbaum: p.159, introduction, see sec. 5.3, start at p. 171. Skinner: p. 17, p. 18, especially, the UML diagrams is associated with an editor (Figure 7.2, p. 43)). It obvious to include because it is known that UML diagram is a nested structure, and it should be noted that validation is part of programming language.

As per Claims 6-10: The Claims recite a computer system that has the claimed limitations corresponding to the limitations recited in Claims 1-5: See the rationale addressed in the rejection of claims 1-5 above.

As per Claims 11-15: The Claims recite a program storage device that has the claimed limitations corresponding to the limitations recited in Claims 1-5: See the rationale addressed in the rejection of claims 1-5 above.

Conclusion

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be reached on 8:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708.

The facsimile number for the organization where this application or proceeding is assigned is the Central Facsimile number **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTV
November 23, 2007

TED VO
PRIMARY EXAMINER